Report of the volcanic eruptions and earthquakes that took place during last year, is given by C. W. Fuchs. The latter author furnishes a translation from the Swedish of Nauckhoff's paper On the occurrence of native iron in a basalt vein at Ovifak, in Greenland, in connection with which we note also a paper by the editor (Tschermak) On the meteorite-find in Greenland.

Astronomische Nachrichten, No. 2015, contains a detailed statement of observations made at Washington by Cleveland Abbe on the position of Coggia's comet, together with the form of the tail, its length, and other details.—F. Tietjen gives elements of Dr. Paliser's planet (139), together with an ephemeris for November and December.

Memorie della Societa degli Spettroscopisti Italiani.—Father Secchi sends an account of his observations on the solar eclipse of October last. He observed the contacts of the limbs of the sun and moon by the spectroscopic method, and discusses its advantages over the ordinary method with the simple telescope.—The same author sends drawings of the chromosphere from December 26, 1873, to August 2, 1874, and he remarks on the continual diminution in the frequency and height of the prominences in accordance with the diminution in number of sun-spots. The sun appears to have been seen, on an average, rather oftener than every other day.

Annali di Chemica applicata alla Medicina, vol. lix., No. 3, September, opens with a paper in the Pharmaceutical Section by Prof. Borsarelli, of Turin, entitled "General and Comparative Study of the Pharmacopœias of Europe and America."—In the same section is a paper by Dr. C. Girard, On protoxalate of iron, and one by Leger, On a tartrate of magnesium lemonade.—In Hygiene there is a paper by Cunningham, On the microscopical examination of the air.—Drs. Lanzi and Terrigi communicate a paper to the Pathological Section, on palustrine miasma.

SOCIETIES AND ACADEMIES

LONDON

Linnean Society, Dec. 17.—Dr. Allman, president, in the chair.—The President read a paper on the Diagnosis of new Genera and Species of Hydroids. Several very interesting collections of Hydroida had recently been placed in the author's hands for determination. One of the most important of these is from the zoological museum of the University of Copenhagen, and consists entirely of gymnoblastic forms obtained from various parts of the world, but principally from the Scandinavian shores. The author is indebted for it to Prof. Lütken, of the University of Copenhagen. Another collection, consisting of calyptoblastic forms, was made in the Japan seas by Capt. St. John, of H.M.S. *Sylvia*, and sent to the author for determination by Mr. J. Gwynn Jeffreys, by whom it is destined for the British Museum. For another valuable collection, containing many new species, the author is indebted to Mr. Busk; while a collection, belonging chiefly to the family of Plumularidæ, was made by Mr. Holdsworth in Ceylon, and contains several curious forms; and, lastly, for a small collection from the shores of Spitzbergen, the author is indebted to the Rev. Mr. Eaton, by whom it was obtained during a recent yacht voyage to that region. Among the new species from the Copenhagen Museum, one of the most interesting is a Hydractinia, from Spitzbergen. It is distinguished from *H. echinata* of our own shores by its nearly smooth spines, but more especially by the peculiar condition of its gonosome, the blastostyles being destitute of the capitulum which forms so characteristic a feature in *H. echinata*, while each carries only a single spherical sporosac of comparatively enormous size. He proposes for it the name of *H. monocarpa*. The same collection contains a new Cladocoryne, the second species as yet discovered of this remarkable genus. It was found attached to Gulf-weed, and is especially interesting in being provided with its reproductive zooids, structures hitherto unknown in the genus. These are developed among the tentacles, and are almost without doubt medusiform, though this point could not be determined with absolute certainty. For the new species the name of *C. pelagica* was proposed. Another hydroid from the same collection was a beautiful Amalthæa, a genus nearly allied to Corymorpha. It was obtained from Iceland. One of its most striking features consists in the great length of its proximal tentacles; these are nearly as long as the entire stem round which, in the living animal, they must have hung down in the form of a graceful inverted tassel of flexile filaments subject to the impulse of every passing current of the surrounding water. The name of *A. islandica* was proposed for it. The Japan collection contained, among other interesting species, a Campanularia, remarkable for the comparatively enormous size of its cups, which exceeded by about five times the dimensions of those of the largest British species. It was named *C. grandis*. This collection contained also a beautiful Thuiaria, for which the name of *T. coronata* was proposed, and in which the female gonangium or receptacle for the ova was crowned by about nine very long bifurcating hollow spines, which formed a cage-like chamber into which the ova subsequently passed. An extension of the cœnosarc is continued from the enlarged summit of the blastostyle or fleshy columnar axis of the gonangium through the whole length of the spines; and as the blastostyle must be homologically regarded as a hydranth arrested and adapted to functions connected with reproduction instead of nutrition, the author looked upon the spines as representing the tentacles of a hydranth which had lost their prehensile functions, become clothed with chitine, and adapted to the protection of the ova during an early period of their development. Mr. Busk's collection contained many beautiful new species of calyptoblastic hydroids. Among these was a Sertularella, whose tubular hydrothecæ, free from the stem in nearly their entire length, were deeply cleft at their distal ends, in the manner of a mitre. For this curious species the name of *S. episcopus* was proposed. A new genus, under the name of *Gemmicella*, was constituted for a sertularia-like form, in which the hydrothecæ, instead of being situated on the opposite sides of the stem, were all brought to the front of the stem, and there became adnate to one another in pairs. A beautiful Thuiaria, with a remarkable dicholomous ramification of the main stem, and with the gonangia situated in the axils of the branches, presented a striking resemblance to the inflorescence of certain common caryophyllaceous plants, and was named *T. Cerastium*. Mr. Holdsworth's collection, made on the coast of Ceylon, contains some very remarkable species. Among these is a magnificent Plumularian of the Aglaophenian type, rendered striking by the great length of its mesial nematophores, and by the presence of two very long divergent teeth which project from the margin of the remarkably patulous hydrothecæ. The species grows in the form of crowded tufts of beautifully graceful plumes. It would seem to belong to the group which Kirchenpauer places in his sub-genus Makrorynchia, and the name of *Makrorynchia insignis* is now proposed for it; but as no gonosome has as yet been found in any of the specimens, the generic name is only provisionally assigned to it. For another beautiful form from the same collection the author has constituted a new genus under the name of *Taxella*. Its hydrothecæ and nematophores are formed on the type of those of the genus Aglaophenia, but its gonophores are not protected by corbulæ, and its ramification presents the peculiarity of being doubly pinnate, so that it represents in the Aglaophenia section of the Plumularidæ a form which in the Plumularian section is represented by the genus Diplopteron, a genus recently constituted by the author for one of the deep-sea hydroids of the *Porcupine* Exploring Expedition. The name of *Taxella eximia* is assigned to the present species, which grows in dense tufts to the height of about a foot. In Mr. Eaton's collection, from Spitzbergen, the only well-preserved hydroid is a little Sertularia with regularly pinnate ramification, elongated hydrothecæ, and a long ovate gonangium curiously constricted near its middle. The author gives it the name of *S. arctica*.

Geologists' Association, Dec. 4.—Henry Woodward, F.R.S., president, in the chair.—Dr. W. B. Carpenter, F.R.S., On the conditions which determine the presence or absence of animal life on the deep-sea bottom.

EDINBURGH

Royal Society, Dec. 21.—Prof. Kelland, vice-president, in the chair.—The following communications were read:—Remarks on the great logarithmic table computed at the Bureau du Cadastre under the direction of M. Prony, by Mr. Edward Sang.—On the elimination of α, β, γ, from the conditions of integrability of S. $U\alpha\delta p$, S. $U\beta\delta p$, S. $U\gamma\delta p$, by M. G. Plarr. Communicated by Prof. Tait.—The development of the ova and structure of the ovary in the Mammalia, by James Foulis, M.D. Communicated by Prof. Turner.—Mathematical Notes, by Prof Tait:—(1), On a singular theorem given by Abel; (2), On the equipotential surfaces for a straight wire; (3), On a fundamental principle in Statics.

MANCHESTER

Literary and Philosophical Society, Dec. 1.—Rev. Wm. Gaskell, M.A., vice-president, in the chair.—Some doubts in regard to the law of the diffusion of gases, by Mr. H. H. Howorth.

Dec. 15.—Mr. Edward Shunck, F.R.S., president, in the chair.—Rev. Wm. Gaskell, M.A., read an interesting account of Horrocks' and Crabtree's observations of the Transit of Venus in 1639, published in the *Annual Register* for 1769.—Some particulars respecting the negro of the neighbourhood of the Congo, West Africa, by Mr. Watson Smith, F.C.S.—Analysis of one of the Trefriw mineral waters, by Mr. Thomas Carnelley, B.Sc. Communicated by Prof. H. E. Roscoe, F.R.S.

GLASGOW

Geological Society, Dec. 15.—Mr. John Young, F.G.S., vice-president, in the chair.—Mr. James Neilson, jun., exhibited a selection of fossils from the Irish and Scotch limestone beds, and read a paper on the Armagh limestones, and their equivalents in Scotch strata.—Mr. James Dairon read a paper on the graptolites of the Upper Llandeilo rocks of the south of Scotland. Mr. Dairon described more particularly the following forms: *Climacograpsus teretiusculus*, *Didymograpsus*, *Dicranograpsus*, and *Pleurograpsus*, pointing out the characteristic features of each, and indicating their range in the rocks of the formation, and the beds in which they severally occur most abundantly. The paper was illustrated by drawings and by a beautiful collection of specimens.

BOSTON, U.S.

Society of Natural History, March 18.—The president in the chair.—Dr. Samuel Kneeland read a paper illustrated by diagrams and specimens, on the evidence for and against the so-called sea-serpent. He thought a careful weighing of the evidence showed that such an animal is not a zoological absurdity, and that from palæontology (if we discard the testimony of many credible witnesses) we may even conclude that it is a possibility—and, he believed, a probability—that some form, intermediate between the marine saurians of the Secondary and the elongated cetaceans of the Tertiary has come down to the present epoch, and will eventually come under the notice of naturalists, and prove, in this as in many other cases, that widely spread popular beliefs in natural history, especially when professing to rest upon credible testimony, have generally for their foundation some portion of scientific truth. He believed there were at least two species of the creature (which he styled Eremotherium), one in the northern and another in the southern ocean.—Notes on Ophidiidæ and Fierasferidæ, with descriptions of new species from America and the Mediterranean, by F. W. Putnam.

PARIS

Academy of Sciences, Dec. 21.—M. Frémy in the chair.—The following papers were read:—New theory of the motion of the planet Neptune: remarks on the *ensemble* of the theories of the eight principal planets, Mercury, Venus, the Earth, Mars, Jupiter, Saturn, Uranus, and Neptune; by M. Le Verrier. The paper presented completes a work commenced on September 16th, 1839.—New theorems on series of similar triangles, by M. Chasles.—On the limited oxidation of the hydro-carbons: amylene; by M. Berthelot. The author employs a solution of chromic acid as the oxidizing agent. Hydride of amylene yields valerianic acid. Amylene when mixed with water and treated with the mixture yields a mixture of all the fatty acids from formic to valerianic—the latter and acetic acid being formed in the greatest proportions.—New documents on the flora of New Caledonia, by M. Ad. Brongniart.—On the carpellary theory according to the Liliaceæ, by M. A. Frécul.—The Laboratory of Experimental Zoology at Roscoff, by M. H. de Lacaze-Duthiers. The author gives a detailed account of this valuable establishment.—Micrometric measurements of the triple star ζ Cancri, by M. Otto Struve.—Report on a memoir by M. Sarrau, entitled, "Theoretical researches on the effects of gunpowder and explosive substances," by the Commissioners, MM. Morin, Tresca, Berthelot, and Résal.—On an apparatus for measuring gases in industrial analyses or *gas-hydrometer*, by M. E. J. Maumené.—Observations concerning a recent communication by M. A. Cornu on the degree of precision of Foucault's method for measuring the velocity of light; a letter from M. Lissajous to the perpetual secretary. The writer gave the following extract from Foucault in contradiction to M. Cornu's statement that the former had obtained results having an indeterminate approximation: "Increasing thus the length of the luminous path and applying greater accuracy to the measurement of the time, I obtained determinations of which the extreme variations do not exceed $\frac{1}{100}$ and which combined by the method of means rapidly give series which ageee nearly to $\frac{1}{800}$."—On the pyruvic ureides: synthesis of parabanic acid; by M. E. Grimaux. This acid has been obtained by the action of bromine and water on mononitropyruvic ureide:—

$$C_4H_3(NO_2)O_2 + 6Br + H_2O = CBr_3NO_2 + C_3H_2N_2O_3 + 3HBr.$$

On a fragment of cranium seeming to indicate that trepanning might have been employed among the Celtic people, by M. E. Robert.—M. Dumas read a telegram from M. Fleuriais relating to the transit of Venus.—Installation in Campbell's Isle of the expedition sent to observe the transit of Venus; a letter from M. A. Boquet de la Grye to M. Dumas.—Letter to the perpetual secretary on the subject of the obelisk raised at Montmartre in 1736 for the fixing of the meridian of Paris, by M. F. Lock.—On the first method given by Jacobi for the integration of equations to the partial derivatives of the first order, by M. G. Darboux.—On the changes of brilliancy of Jupiter's satellites, by M. C. Flammarion.—On the molecular equilibrium of solutions of chrome alum, by M. Lecoq de Boisbaudran.—Preparation of pure nickel salts from the nickel of commerce, by M. A. Terreil.—Action of chlorine on perbromide of acetylene, by M. E. Bourgoin.—Toxicological search for potassium cyanide in presence of non-toxic double cyanides, by M. E. Jacquemin. Researches on the pathological albumens, method of estimating albumens, &c., by J. Birot.—Analysis of a meteorite which fell in the province of Huesca, in Spain, by M. F. Pisani.—Observations relating to the Roda meteorite, by M. Daubrée.—Researches on the modifications which the blood undergoes in its passage through the spleen, from the double point of view of its richness in red globules and its respiratory capacity, by MM. L. Malassez and P. Picard.—Observations made at Bordeaux of two lunar halos of remarkable intensity on the 15th and 19th of December; a letter from M. G. Lespiault to the president.—During the meeting M. Du Moncel was elected a free member in place of the late M. Roulin.

BOOKS AND PAMPHLETS RECEIVED

BRITISH.—A Sketch of Philosophy. Part 4. Biology and Theodicy; a Prelude to the Biology of the Future: John C. Macvicar, M.A., LL.D., D.D. (Williams and Norgate)—Gardener's Year-Book for 1875: Robert Hogg, LL.D., F.L.S. ("Journal of Horticulture").—Heredity; From the French of Th. Ribot (Hy. S. King and Co.)—Geology of the Clyde Valley: John Young, M.D. (James Maclehose, Glasgow).—List of the Palæozoic Fishes. Extracted from the Geological Magazine (Trübner and Co.)—Seventh Annual Report of the Executive Committee of the Manchester Nat. Soc. for Woman's Suffrage (Alexander Ireland, Manchester)—Notes on a Till or Border Clay with broken Shells in the Lower Valley of the River Endrick: Robt. L. Jack, F.G.S (Geological Society, Glasgow).—Astronomy; J. Norman Lockyer (Macmillan and Co.)—The Physics and Philosophy of the Senses: R. S. Wyld, F.R.S.E. (Henry S. King and Co.)—Cholera: How to Prevent and Resist it: T. Whiteside Hime, A.B., M.B., &c. (Baillière, Tindall, and Cox).—Studies on Biogenesis: Wm. Roberts, M.D. (Royal Society).—On the Connection between Colliery Explosions and the Weather in 1872: Robert H. Scott and Wm. Galloway (Quarterly Journal of the Meteorological Society)—British Wild Flowers. Parts 7 and 8: John E. Sowerby (John Van Voorst).—History of British Birds. Parts 6, 7, and 8: A. Newton, M.A., F.R.S. (John Van Voorst).—Micrographic Dictionary. Parts 18, 19, 20, and 21: J. W. Griffith, M.D., and A. Henfrey, F.R.S., F.L.S. (John Van Voorst).—Anthropologia. Vol. i. Part 3 (Baillière, Tindall, and Cox).

CONTENTS